<u>**AMENDMENTS TO THE CLAIMS**</u>

Please amend the claims as follows:

1. (Currently Amended) A method of merging a first data stream with a second data stream to generate a third data stream, comprising:

    a) receiving a first packet from the first data stream, the first packet containing a first packet ID and a first data payload;

    b) receiving a second packet from the second data stream, the second packet containing a second packet ID and a second data payload;

    c) storing first data in a plurality of packet ID arrival registers, a first portion of the first data indicating that the first packet ID is equal to the ID associated with a first of the plurality of the packet ID arrival registers, a second portion of the first data indicating that the first packet ID is not equal to the ID associated with a second of the plurality of the packet ID arrival registers;

    d) storing second data in the plurality of packet ID arrival registers, a first portion of the second data indicating that the second packet ID is equal to the ID associated with the second of the plurality of the packet ID arrival registers, a second portion of the second data indicating that the second packet ID is not equal to the ID associated with the first of the plurality of the packet ID arrival registers;

    e) calculating a first autocorrelation vector <u>that is indicative of the arrival rate of incoming packets in the first data stream</u>;

    f) calculating a second autocorrelation vector <u>that is indicative of the arrival rate of incoming packets in the second data stream</u>; and

g) based at least in part upon a comparison of the magnitude of the first autocorrelation vector and the magnitude of the second autocorrelation vector, including the first packet in the third data stream.

2. (Original) The method of claim 1, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device.

3. (Original) The method of claim 1, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device and the act of receiving a second packet includes receiving the second packet from an HT I/O device.

4. (Original) The method of claim 1, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "1" in the first packet ID arrival register.

5. (Original) The method of claim 1, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "0" in the second packet ID arrival register.

6. (Original) The method of claim 1 wherein the act of calculating an autocorrelation vector includes calculating a biased autocorrelation vector.

7. (Original) The method of claim 1 wherein the act of calculating an autocorrelation vector includes calculating an unbiased autocorrelation vector.

8. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector is performed by a HyperTransport I/O device.

9. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector is performed by a HyperTransport I/O switch.

10. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector includes calculating the following equation:

$$Rxx(T) = \frac{1}{N-T} \sum_{n=0}^{N-1} x(n)x(n+T)$$

where T and N are integers, and x is an array that includes data stored in one of the plurality of packet ID arrival registers.

11. (Original) The method of claim 1, wherein the act of receiving the first packet includes receiving the first packet from a second HT I/O device and the act of receiving the second packet includes receiving the second packet from a third HT I/O device.

12. (Original) The method of claim 1, wherein the act of receiving the first packet includes receiving the first packet from an internal port within the HT I/O device and the act of receiving the second packet includes receiving the second packet from a second HT I/O device.

13. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector includes copying the data in the first packet ID arrival register, shifting the copied data by T elements, where T is an integer, the result being referred to as shifted data.

14. (Original) The method of claim 13 further including multiplying the shifted data with the data in the first packet ID arrival register.

15 - 23. (Canceled)